

AATCTTTTATTTTATCGATGTTAACAAGCTTAGTAATCGATGCCACGTCGAGGGGTGTCGACC
CACGCGTCCGGGAGTAGGTTGAGCTCGCCTGTTCTCCCATTGTCAGCCAGTCTATTTCCAG
ATTGTTTGAAGTTCTCTGCGCCGACAAATACAGGAAGGAAGACTAAAGCAGCAAAGGGACCTA
CAGCGTCTGCAGCATGGGCTGGTTAACTAGGATTGTCTGTCTTTTCTGGGGAGTATTACTTA
CAGCAAGAGCAAATATCAGAATGGGAAGAACAATGTGCCAAGGCTGAAATTATCCTACAAA
GAAATGTTGGAATCCAACAATGTGATCACTTTCAATGGCTTGGCCAACAGCTCCAGTTATCAT
ACCTTCCTTTTGGATGAGGAACGGAGTAGGCTGTATGTTGGAGCAAAGGATCACATATTTTC
ATTTCGACCTGGTTAATATCAAGGATTTTCAAAAGATTGTGTGGCCAGTATCTTACACCAGAAG
AGATGAATGCAAGTGGGCTGGAAAAGACATCCTGAAAAGATGTGCTAATTTTCATCAAGGTAC
TTAAGGCATATAATCAGACTCACTTGTACGCCTGTGGAACGGGGGCTTTTCATCCAATTTGC
ACCTACATTGAAATTGGACATCATCCTGAGGACAATATTTTTAAGCTGGAGAACTCACATTTT
GAAAACGGCCGTGGGAAGAGTCCATATGACCCTAAGCTGCTGACAGCATCCCTTTTAATAGA
TGGAGAATTATACTCTGGAAGTGCAGCTGATTTTATGGGGCGAGACTTTGCTATCTTCCGAA
CTCTTGGGCACCACCACCCAATCAGGACAGAGCAGCATGATTCCAGGTGGCTCAATGATCC
AAAGTTCATTAGTGCCACCTCATCTCAGAGAGTGACAATCCTGAAGATGACAAAGTATACTT
TTTCTTCCGTGAAAATGCAATAGATGGAGAACACTCTGGAAAAGCTACTCACGCTAGAATAG
GTCAGATATGCAAGAATGACTTTGGAGGGCACAGAAGTCTGGTGAATAAATGGACAACATTC
CTCAAAGCTCGTCTGATTTGCTCAGTGCCAGGTCCAAATGGCATTGACACTCATTTTGATGA
ACTGCAGGATGTATTCCTAATGAACTTTAAAGATCCTAAAAATCCAGTTGTATATGGAGTGTT
TACGACTTCCAGTAACATTTTCAAGGGATCAGCCGTGTGTATGTATAGCATGAGTGATGTGA
GAAGGGTGTTCTTGGTCCATATGCCCACAGGGATGGACCCAACTATCAATGGGTGCCTTAT
CAAGGAAGAGTCCCCTATCCACGGCCAGGAAGTTGTCCAGCAAACATTTGGTGGTTTTGA
CTCTACAAAGGACCTTCCTGATGATGTTATAACCTTTGCAAGAAGTCATCCAGCCATGTACAA
TCCAGTGTTTCCTATGAACAATCGCCCAATAGTGATCAAAACGGATGTAAATTATCAATTTAC
ACAAATTGTCGTAGACCGAGTGGATGCAGAAGATGGACAGTATGATGTTATGTTTATCGGAA
CAGATGTTGGGACCGTTCTTAAAGTAGTTTCAATTCCTAAGGAGACTTGGTATGATTTAGAAG
AGGTTCTGCTGGAAGAAATGACAGTTTTTTCGGGAACCGACTGCTATTTTCAGCAATGGAGCTT
TCCACTAAGCAGCAACAACCTATATATTGGTTCAACGGCTGGGGTTGCCAGCTCCCTTTACA
CCGGTGTGATATTTACGGGAAAGCGTGTGCTGAGTGTTGCCTCGCCCCGAGACCCTTACTGT
GCTTGGGATGGTTCTGCATGTTCTCGCTATTTTCCCACTGCAAAGAGACGCACAAGACGACA
AGATATAAGAAATGGAGACCCACTGACTCACTGTTTCAGACTTACACCATGATAATCACCATG
GCCACAGCCCTGAAGAGAGAATCATCTATGGTGTAGAGAATAGTAGCACATTTTGGAAATGC
AGTCCGAAGTCGCAGAGAGCGCTGGTCTATTGGCAATTCAGAGGCGAAATGAAGAGCGAA
AAGAAGAGATCAGAGTGGATGATCATATCATCAGGACAGATCAAGGCCTTCTGCTACGTAGT

Fig. 1A

CTACAACAGAAGGATTCAGGCAATTACCTCTGCCATGCGGTGGAACATGGGTTTCATACAAAC
TCTTCTTAAGGTAACCCTGGAAGTCATTGACACAGAGCATTTGGAAGAACTTCTTCATAAAGA
TGATGATGGAGATGGCTCTAAGACCAAAGAAATGTCCAATAGCATGACACCTAGCCAGAAGG
TCTGGTACAGAGACTTCATGCAGCTCATCAACCACCCCAATCTCAACACGATGGATGAGTTC
TGTGAACAAGTTTGGAAAAGGGACCGAAAACAACGTGCGCAAAGGCCAGGACATACCCAG
GGAACAGTAACAAATGGAAGCACTTACAAGAAAATAAGAAAGGTAGAAACAGGAGGACCCA
CGAATTTGAGAGGGCACCCAGGAGTGTCTGAGCTGCATTACCTCTAGAAACCTCAAACAAGT
AGAAACTTGCCTAGACAATAACTGGAAAAACAAATGCAATATACATGAACTTTTTTTCATGGCA
TTATGTGGATGTTTACAATGGTGGGAAATTCAGCTGAGTTCACCAATTATAAATTAATCCA
TGAGTAACTTTCCTAATAGGCTTTTTTTCCTAATACC (SEQ ID NO:1)

FIG. 1B

GAATTCTCGAGCTCGTGCACCACGCCCTCCTTGTGCAAGAACTCTGAGCCCCAGGTGCAGG
AGGCTGAGGCCTGCAGAGAGACTTGCAGAGAGACCCAGCAAGCCATGGTGTTTCCATGGA
GATGTGAGGGTACTTACTGGGGCTCGAGGAACATCCTGAAGCTGTGGGTCTGGACACTGCT
CTGTTGTGACTTCCTGATACACCATGGAACCTCACTGTTGGACTTACCATTATTCTGAAAAGCC
CATGAACTGGGAAAATGCTAGAAAAGTTCTGCAAGCAAAATTACACAGATTTAGTCGCCATAC
AAAACAAGAGAGAAATTGAGTATTTAGAGAATACATTGCCCAAAGCCCTTATTACTACTGGA
TAGGAATCAGGAAAATTGGGAAAATGTGGACATGGGTGGGAACCAACAAAACCTCTCACTAAA
GAAGCAGAGAACTGGGGTGCTGGGGAGCCCAACAACAAGAAGTCCAAGGAGGACTGTGTG
GAGATCTATATCAAGAGGGAACGAGACTCTGGGAAATGGAACGATGACGCCTGTCACAAAC
GAAAGGCAGCTCTCTGCTACACAGCCTCTTGCCAGCCAGGGTCTTGCAATGGCCGTGGAGA
ATGTGTGGAACTATCAACAATCACACGTGCATCTGTGATGCAGGGTATTACGGGGCCCCAGT
GTCAGTATGTGGTCCAGTGTGAGCCTTTGGAGGCCCTGAGTTGGGTACCATGGACTGCAT
CCACCCCTTGGGAACTTCAGCTTCCAGTCCAAGTGTGCTTTCAACTGTTCTGAGGGAAGAG
AGCTACTTGGGACTGCAGAAACACAGTGTGGAGCATCTGGAACTGGTCATCTCCAGAGCC
AATCTGCCAAGTGGTCCAGTGTGAGCCTTTGGAGGCCCTGAGTTGGGTACCATGGACTGC
ATCCACCCCTTGGGAACTTCAGCTTCCAGTCCAAGTGTGCTTTCAACTGTTCTGAGGGAAG
AGAGCTACTTGGGACTGCAGAAACACAGTGTGGAGCATCTGGAACTGGTCATCTCCAGAG
CCAATCTGCCAAGAGACAAACAGAAGTTTCTCAAAGATCAAAGAAGGTGACTACAACCCCT
CTTCATTCTGTAGCCGTCATGGTCACCGCATTCTCGGGGCTGGCATTCTCATTGGCTGG
CAAGGCGGTTAAAAAAGGCAAGAAATCTCAAGAAAGGATGGATGATCCATACTGATTCATC
CTTTGTGAAAGGAAAGCCATGAAGTGCTAAAGACAAAACATTGGAAAATAACGTCAAGTCCT
CCCGTGAAGATTTTACACGCAGGCATCTCCACATTAGAGATGCAGTGTTTGCTCAACGAAT
CTGGAAGGATTTCTTCATGACCAACAGCTCCTCCTAATTTCCCCTCGCTCATTTCATCCCATTA
ACCCTATCCCATAATGTGTGTCTATACAGAGTAGTATTTTATCATCTTTTCTGTGGAGGAACA
AGCAAAAGTGTTACTGTAGAATATAAAGACAGCTGCTTTTACTCTTTCCTAACTCTTGTTTCCT
AGTTCAATTCAGCACAGAAGCTAATGCCAAACACAGTGAAAATATGATCCATGAGTAATTGGA
AACTCAGACTCCTTGCGCATAGTACGTACCCTATGTAACATCGACAAAAATCTTTCATTTC
CCTCCAAAGAACAGTGCTCTATTCAAGTTGGGAAAGTCCTACTTCCTCTGTAGACCCACTAT
CTGTGAGTGACAGCCACTGTAGCTGTTACATTAACTTCCCCTCCTCTTCTAGGAGA
ATAATTCCACACACTGCACCCCATGATGGCCACCAACATCAAAGAAGGGAAAATCTCCTGC
ATTGAGTTTTAGTTTTGAGTTTTCCCTTCTCTTTATTAGATCTCTGATGGTTCCTTGAAGTCAG
TGTTCTGATGATTATTAATAGTTAATGATAACACAACCCACTCTCTTGGAGCTGATGTTATGAA

FIG. 2A

GACAACAGGTAGAAAAATTCCTGGGCTCAGGCTGGAGTGACACCCTTTTCTTTCCCTAACAT
CTTCTACTCAGATACCTAAATTTAAGATTCAGGACAGCTGTCCCCAACTCTTACCATGTCTTT

TATAACTTGCTCCTTAACTTGCCCAACCTGTAGGCTATCTCATTTTCTCGCTTCACTCTGCAA
GGTTTATAACATGATGAATTTAAATAC (SEQ ID NO:2)

GTGACCCACGCGTCCGCAGACCTAGTAGCTGTGGAAACCATGGCCCTGAGTGTCATGTGT
CTGGGCCTTGCCCTGCTTGGGGTCCTGCAGAGCCAGGCCAGGACTCAACTCAGAACTTGA
TCCCTGCCCCATCTCTGCTCACTGTCCCCCTGCAGCCAGACTTCCGGAGCGATCAGTTCCG
GGGCAGGTGGTACGTTGTGGGCCTGGCAGGCAATGCGGTCCAGAAAAAACAGAAGGCAG
CTTTACGATGTACAGCACCATCTATGAGCTACAAGAGAACAATAGCTACAATGTCACCTCCAT
CCTGGTCAGGGACCAGGACCAGGGCTGTCGCTACTGGATCAGAACATTTGTTCCAAGCTCC
AGGGCTGGCCAGTTCACTCTGGGAAATATGCACAGGTATCCTCAGGTACAGAGCTACAATG
TGCAAGTGGCCACCACGGACTACAACCAGTTGCGCATGGTATTTTTCCGAAAGACTTCTGAA
AACAAGCAATACTTCAAATTACCCTGTATGGAAGAACCAAGGAGCTGTCCCCTGAACTGAA
GGAACGTTTCACCCGCTTTGCCAAGTCTCTGGGCCTCAAGGACGACAACATCATCTTCTCTG
TCTGTCTGCCACTCCATCTTTCCTGTTGCCAGAGAGCCACCTGGCTGCCCCACCAGCCACC
ATACCAAGGAGCATCTGGAGCCTCTTCTTATTTGGCCAGCACTCCCCATCCACCTGTCTTAA
CACCACCAATGGCGTCCCCTTTCTGCTGAATAAATACATGCCCCCAAAAAAAAAAAAAAAGG
GCGGCCGC (SEQ ID NO:3)

Fig. 3A

MALSVMCLGLALLGVLQSQAQDSTQNLIPAPSLTVP LQPDFRSDQFRGRWYVVG LAGNAVQK
KTEGSFTMYSTIYELQENNSYNVTSILVRDQDQGC RYWIRTFVPSSRAGQFTLG NMHRYPQVQS
YNVQVATTDYNQFAMVFFRKTS ENKQYFKITLYGR TKELSPELKERFTRFAKSLGLKDDNIIF SVC
LPLHLSCCQRATWLP HQPPYQGASGASSYLASTPH PPVLT PPMAS PFC (SEQ ID NO:4)

FIG. 3B

CCCCCTTTTGGTTTTTGTCTATCGACCCCTAACAAGCTTAGTAATCGATGCCACTCGAGGCCAA
GAATTCATTACGAGCCTGAGCTCCTTCGGCTTTTTCCCCCCTTTTGCATCTTGTTTCCCGGGA
TACCTGCAACTCAAGGATGGATGCCCTGAGACTGGCAAATTCAGCTTTTGCTGTTGACTTGT
TCAAACAACATATGTGAAAGGGACCCAGCAGGAAACATTCTCTTCTCTCCAATATGCCTCTCTA
CTTCTCTGTCCCTTGCGCAAGTGGGCACCAAAGGCGACACAGCAAATGAAATTGGACAGGT
CCTTCATTTTGAGAATGTCAAAGATGTACCCTTTGGGTTTCAAACAGTCACTTCTGATGTTAA
TAAGCTCAGTTCTTTTACTCTTTGAAACTTGTCAAGCGACTCTACATAGACAAATCTCTGAAC
CCTTCTACAGAAATTTATCAGTTCTACCAAAGACCATATGCAAAGAATTGGAAACTGTTGAC
TTCAAAGACAAACTGGAAGAAACGAAAGGTCAAATTAACAGCTCCATTAAGGAGCTCACAGA
TGGCCACTTTGAGGACATTTTGTGAGAGAACAGTATAAGTGACCAGACCAAATCCTTGTGG
TTAATGCTGCCTACTTTGTTGGAAAGTGGATGAAGAAATTTCCGGAATCAGAAACAAAAGAAT
GTCTTTTCAGAAATCAGCAAGACAGACACCAAACCCGTACAAATGATGAATCTTGAGGCCACT
TTCTGCTTGGGTAACATTGATGACATCAGCTGTAAGATCATAGAACTTCCTTTCCAGAATAAG
CATCTGAGTATGCTCATTGTGCTCCCCAAGGACGTGGAGGATGAGTCCACAGGCCTGGAGA
AGATTGAACAGCAACTCAACCCAGAAACATTGTTACAGTGGACCAACCCCAAGTACCATGGCC
AATGCCAAAGTCAAACCTTTCCCTCCCAAAGTTTAAGGTAGAAAAGATGATTGATCCCAAGGCT
AGTCTGGAAAGCCTAGGGGCTGAAAAGTCTCTTCAATGAAAGTACATCGGATTTCTCTGGAAT
GTCAGAGACCAAGGGAGTGTCCCTGTCAAATGTGATTCATAGAGTATGCCTAGAAATAACCG
AAGATGGTGGTGAGTCCATCGAGGTGCCAGGGTCCCGGATCTTACAGCACAAAGGATGAATT
CAATGCTGACCATCCATTTATTTATATCATTAGACACAACAAAACCTCGAAACATCATTTTCTTT
GGCAAATTCTGTTCTCCTTAGCTGGCAGGGCCTTGCCAAGTCTCAGGGAACCTTGTCTGTAGT
CGCAGAGCTCTGTAACTTTGTATCCAGACAATCACTTTCTATACAATAAATTGTAAATGTTG
CTGAAAAAAAAAAAAAAAAAAAAAAAAA (SEQ ID NO:5)

GGTGGAGACTAAATATAATCTTTTATTTTATCGATGTAAACAAGCTTAGTAATCGATGCCACG
TCGAGGGGTGTGCGACCCACGCGTCTCGCTTGCCTGTTCTTTTCCACGCATTTTCCAGGATA
ACTGTGACTCCAGGCCCGCAATGGATGCCCTGCAACTAGCAAATTCGGCTTTTGCCGTTGAT
CTGTTCAAACAACTATGTGAAAAGGAGCCACTGGGCAATGTCCTCTTCTCTCCAATCTGTCT
CTCCACCTCTCTGTCACTTGCTCAAGTGGGTGCTAAAGGTGACACTGCAAATGAAATTGGAC
AGGTTCTTCATTTTGAAAATGTCAAAGATGTACCCTTTGGATTTCAAACAGTAACATCGGATG
TAAACAACTTAGTTCCTTTTACTCACTGAACTAATCAAGCGGCTCTACGTAGACAAATCTC
TGAATCTTTCTACAGAGTTCATCAGCTCTACGAAGAGACCCTATGCAAAGGAATTGGAACT
GTTGACTTCAAAGATAAATTGGAAGAAACGAAAGGTCAGATCAACAACTCAATTAAGGATCTC
ACAGATGGCCACTTTGAGAACATTTTAGCTGACAACAGTGTGAACGACCAGACCAAAATCCT
TGTGGTTAATGCTGCCTACTTTGTTGGCAAGTGGATGAAGAAATTTCTGAATCAGAAACAAA
AGAATGTCCTTTCAGAGTCAACAAGACAGACACCAAACCAGTGCAGATGATGAACATGGAGG
CCACGTTCTGTATGGGAAACATTGACAGTATCAATTGTAAGATCATAGAGCTTCCTTTTCAA
ATAAGCATCTCAGCATGTTTCCTACTACCCAAGGATGTGGAGGATGAGTCCACAGGCTTG
GAGAAGATTGAAAACAACTCAACTCAGAGTCACTGTACAGTGGACTAATCCCAGCACCAT
GGCCAATGCCAAGGTCAAACCTCTCCATTCCAAAATTTAAGGTGGAAAAGATGATTGATCCCA
AGGCTTGTCTGGAAAATCTAGGGCTGAAACATATCTTCAGCGAAGACACATCTGATTTCTCT
GGAATGTCAGAGACCAAGGGAGTGGCCCTATCAAATGTTATCCACAAAGTGTGCTTAGAAAT
AACTGAAGATGGTGGGGATTCCATAGAGGTGCCAGGAGCACGGATCCTGCAGCACAAGGAT
GAATTGAATGCTGACCATCCCTTTATTTACATCATCAGGCACAACAAAACCTCGAAACATCATT
TTCTTTGGCAAATTCTGTTCTCCTTAAGTGGCATAGCCCATGTTAAGTCCTCCCTGACTTTTC
TGTGGATGCCGATTTCTGTAACTCTGCATCCAGAGATTCATTTTCTAGATACAATAAATTGC
TAATGTTGCTGGATCAGGAAGCCGCCAGTACTTGTATATGTAGCCTTCACACAGATAGACC
TTTTTTTTTTTTTCCAATTCTATCTTTGTTTCCTTTTTTCCCATAAGACAATGACATACGCTTTT
AATGAAAAGGAATCACGTTAGAGGAAAAATATTTATTCATTATTTGTCAAATTGTCCGGGGTA
GTTGGCAGAAATACAGTCTTCCACAAAGAAAATTCCTATAAGGAAGATTTGGAAGCTCTTCTT
CCCAGCACTATGCTTTCCTTCTTTGGGATAGAGAATGTTCCAGACATTCTCGCTTCCCTGAAA
GACTGAAGAAAGTGTAGTGCATGGGACCCACGAACTGCCCTGGCTCCAGTGAAACTTGGG
CACATGCTCAGGCTACTATAGGTCCAGAAGTCCTTATGTTAAGCCCTGGCAGGCAGGTGTTT
ATTAAAATTCTGAATTTTGGGGATTTTCAAAGATAATATTTTACATACACTGTATGTTATAGAA
CTTCATGGATCAGATCTGGGGCAGCACCCCTATAAATCACCACCTTAATATGCTGCAACAAAA
TGTAAGATATTAGACAAAATGGATACATAAAGACTAAGTAGCCCATAGGGGTCAAATTTTG
CTGCCAAATGCGTATGCCACCAACTTACAAAAACACTTCGTTTCGCAGAGCTTTTTCAGATTGT

Fig. 5A

GGAATGTTGGATAAGGAATTATAGACCTCTAGTAGCTGAAATGCAAGACCCCAAGAGGAAGT
TCAGATCTTAA (SEQ ID NO:6)

FIG. 5B

FIG. 5B

Figure 6

	Semaphorin D	Maspin	B94	mel-14 Antigen	24p3	Proliferin
Expression in EMT6 tumors	Up-regulated in CDDP resistant tumor	Down-regulated in CDDP resistant tumor	Up-regulated in CDDP resistant tumor	Up-regulated in CDDP resistant tumor	Up-regulated in CDDP resistant tumor	Up-regulated in CDDP resistant tumor
Expression in EMT6 cell lines	Remain up-regulated in CDDP resistant cell line to passage 13 (passage 3, 6, 10, and 13 checked)	Remain down-regulated in CDDP resistant cell line to passage 3	Remain up-regulated in CDDP resistant cell line to passage 10	Remain up-regulated in CDDP resistant cell line to passage 10	Remain up-regulated in CDDP resistant cell line to passage 10	Remain up-regulated in CDDP resistant cell line to passage 10
Expression in multi-cell line pairs (A2780, UCLA, U937, HL60, SCC25 pairs)	Highly expressed in SCC25 CDDP cell line, not significantly expressed in other cell line pairs.	Highly expressed in SCC25 wild type cell line (and HL60 AD cell line), not significantly expressed in other cell line pairs.	Differently expressed in HL60 and U937 cell lines (lower in resistant cell line).	Differently expressed in HL60 cell lines (high in HL60 and HL60Rev, low in HL60AD)	Slightly up-regulated in SCC25 CDDP cell line; not significantly differentially expressed in other cell line pairs.	Slightly up-regulated in A2780AD and SCC25 CDDP cell lines; Not significantly differentially expressed in other cell line pairs.